IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Serial No. 10/791,084
Confirmation No. 2937

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02/27/2008 /Pamela Gerik/
Date Pamela Gerik

SUPPLEMENTAL APPEAL BRIEF

Sir/Madam:

In response to the Notice of Non-Compliant Appeal Brief, Appellant presents this Supplemental Appeal Brief. Appellant hereby appeals to the Board of Patent Appeals and Interferences from a final rejection of claims 1-9 and 24-27 in the final Office Action mailed July 6, 2007, and respectfully requests that this appeal be considered by the Board.

I. REAL PARTY IN INTEREST

The subject application is owned by Motion Computing Inc., a corporation having its principal place of business at 9433 Bee Caves Road, Austin, Texas, 78733, as evidenced by the assignment recorded at Reel 015040, Frame 0714.

II. RELATED APPEALS AND INTERFERENCES

No appeals or interferences are known which would directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 1-9 and 24-27 are pending in the captioned case. Claims 10-23 are canceled. Claims 1-9 and 24-27 stand rejected and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

No amendments to the claims were filed subsequent to their final rejection. The Appendix hereto therefore reflects the current state of the claims.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 recites a method for forming an apparatus (e.g., 270 in Fig. 6) configured to reduce electromagnetic interference between a pair of antennas (e.g., 210, 220 in Fig. 6) coupled to a wireless communication device (e.g., 200 in Fig. 6), wherein the method comprises: extracting a shape of the apparatus from a thin sheet of conductive material (Specification -- pg. 34, line 11 – pg. 35, line 36; page 39, line 23 – page 40, line 4; page 40, lines 21-32; and Figs. 7A, 10A, 11A); folding the shape into a plurality of resonant circuit elements, each configured to resonate at or near a carrier frequency of a signal transmitted by one of the pair of antennas (Specification -- pg. 35, line 28 – pg. 36, line 29; page 39, line 23 – page 40, line 4, page 40, lines 21-32; Figs. 7B, 10B, 11B); and wherein by the steps of extracting and folding, the apparatus is formed having a length substantially equal to one-half of the transmitted signal wavelength (Specification -- pg. 33, lines 19-26; page 36, lines 4-9; page 40, lines 6-19; page 41, lines 4-17; Figs. 7C, 10B, 11B).

Various embodiments of the apparatus are shown in Figs. 7A-7H (apparatus 700), Figs. 10A-10C (apparatus 1000), and Figs. 11A-11B (apparatus 1100).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1-9 and 24-27 stand rejected under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

2. Claims 1-9, 24, and 26-27 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,411,261 to Lilly (hereinafter "Lilly").

3. Claims 1-9 and 24-27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lilly.

VII. ARGUMENT

The contentions of the Appellant with respect to the ground of rejection presented for review, and the basis thereof, with citations of the statutes, regulations, authorities, and parts of the record relied upon are presented herein for consideration by the Board. Details as to why the rejections cannot be sustained are set forth below.

1. Patentability of claims 1-9 and 24-27 under 35 U.S.C § 112, second paragraph

Claims 1-9 and 24-27 were rejected under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, claims 1-9 and 24-27 were rejected for not claiming the exact length of the apparatus or the exact wavelength of the transmitted signal (final Office Action, pp. 2, 4). This rejection is traversed for at least the reasons set forth below.

Claim 1 states in part "wherein by the steps of extracting and folding, the apparatus is formed having a length substantially equal to one-half of the transmitted signal wavelength."

The Examiner considers claim 1 to be indefinite because the exact transmitted signal wavelength, and thus, the exact length of the apparatus are unknown. In particular, the Examiner states "[c]laims 1-9 and 24-27 are directed to a method for forming an apparatus, therefore the length of the apparatus must be known or predetermined prior to forming the apparatus; however, the apparatus cannot be formed (claims are vague and indefinite) because a carrier frequency of a signal transmitted is unknown therefore the wavelength (c/f) of the transmitted signal is unknown, thus the length of the apparatus is unknown" (final Office Action, page 2). Although the Appellants agree on some points, the Appellants disagree with the Examiner's conclusion and the rejection of indefiniteness.

The Appellants agree that, in order to form an apparatus, the length of the apparatus must be known or predetermined prior to forming the apparatus. However, Appellants do not agree that the claim must recite an exact apparatus length or an exact transmitted signal wavelength to render the claim definite.

As set forth in MPEP 2173.02, the Examiner's focus during examination of claims for compliance with the requirement for definiteness of 35 U.S.C. § 112, second paragraph, is whether the claim meets the threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available. The essential inquiry pertaining to this requirement is whether the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity.

In the office action response filed September 6, 2007, Appellants argued that the claimed subject matter met the threshold requirements of clarity and precision by noting a clear dependence between the apparatus length and the signal transmission wavelength. This dependence would enable a skilled artisan to tailor the apparatus length to any desired transmitted signal wavelength. Although a particular wavelength must be known or predetermined prior to forming the apparatus, the method recited in claim 1 does not have to recite a particular transmitted signal wavelength or a particular apparatus length to meet the requirements of clarity and precision. The present claim provides a reasonable degree of clarity

and precision by simply stating that "the apparatus is formed having a length substantially equal to one-half of the transmitted signal wavelength."

The Examiner maintains the § 112, second paragraph, rejection of claims 1-9 and 24-27 in the Advisory Action mailed September 25, 2007. In support of the continued rejection of claim 1, the Examiner states that the claims are indefinite because one skilled in the art could not make the apparatus without knowing the exact length/size of the apparatus (see, Advisory Action, page 2). The Appellants disagree.

First, the apparatus length recited in claim 1 is not unknown. As noted above, claim 1 clearly states that "the apparatus is formed having a length substantially equal to one-half of the transmitted signal wavelength."

Second, a skilled artisan would readily understand how to make the apparatus given the limitations recited in claim 1. In particular, a skilled artisan would understand that although a particular length is not recited, the length of the apparatus is dependent on the transmitted signal wavelength, and more specifically, equal to one-half of the transmitted signal wavelength. This dependence would enable the skilled artisan to form an apparatus, using the method steps recited in claim 1, by tailoring the apparatus length to a desired wavelength or wavelength range. The desired wavelength would be known beforehand, thus enabling the apparatus to be formed with an appropriate length.

For example, the specification provides one possible apparatus length (e.g., about 62mm) for one possible transmitted signal wavelength (e.g., a 2.4Ghz signal) (Specification -- page 33, lines 10-26; page 35, line 28 – page 36, line 21). However, the specification clearly states that the length of the apparatus is not limited to a particular transmitted signal wavelength, and may be tailored to accommodate substantially any wavelength range (Specification -- page 17, lines 16-28; page 36, lines 23-29).

The present claim meets the requirements of § 112, second paragraph, by setting forth the subject matter, which Appellants regard as their invention, and particularly pointing out and distinctly defining the metes and bounds of the subject matter for which protection is sought. The present claims distinctly define the metes and bounds of the subject matter to be protected by describing the claimed apparatus length with a reasonable degree of clarity and precision. The Examiner's insistence on specifying an exact apparatus length or transmitted signal wavelength in the claims is unreasonably restrictive and limiting to the intended scope of the claim (i.e., to form an apparatus having a length substantially equal to one-half of a transmitted signal wavelength) and cannot be upheld.

For at least the reasons set forth above, Appellants contend that the § 112, second paragraph, rejection of claims 1-9 and 24-27 is improper and respectfully request that it be removed.

2. Patentability of claims 1-9, 24, and 26-27 under 35 U.S.C § 102(b)

Claims 1-9, 24, and 26-27 was rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,411,261 to Lilly (hereinafter "Lilly"). The standard for "anticipation" is one of fairly strict identity. A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art of reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP 2131. Furthermore, anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, as arranged in the claim. *W.L. Gore & Assocs. V. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983). Using these standards, Appellants submit the cited art fails to disclose each and every element of the currently pending claims, some distinctive features of which are set forth in more detail below.

Lilly fails to anticipate a method for forming an apparatus in which a length of the apparatus is substantially equal to one-half of a transmitted signal wavelength. Present claim 1 recites in part:

> A method for forming an apparatus configured to reduce electromagnetic interference between a pair of antennas coupled to a wireless communication device, wherein the method comprises: extracting a shape of the apparatus … folding the shape into a plurality of resonant circuit elements, each configured to resonate at or near a carrier frequency of a signal transmitted by one of the pair of antennas; and wherein by the steps of extracting and folding, the apparatus is formed having a length substantially equal to one-half of the transmitted signal wavelength.

The apparatus formed by the method recited in claim 1 reduces electromagnetic interference between two or more antennas coupled to a wireless communication device by extracting a shape of the apparatus from a thin sheet of conductive material, and folding the shape into a plurality of resonant circuit elements (Specification -- page 28, line 20-34; page 30, line 16-27; Fig. 6). Although the resonant circuit elements may be formed somewhat differently in various embodiments of the invention (Specification -- Figs. 7, 10, and 11, and supporting text), each of the resonant circuit elements is configured to resonate at (or near) a carrier frequency of a signal transmitted by one of the antennas. In order to provide maximum interference reduction, the presently claimed method forms the apparatus, such that a length of the apparatus is substantially equal to one-half of the transmitted signal wavelength. "In doing so, about half of the radiated energy will be scattered in one direction, while the other half is scattered in a substantially opposite direction. This provides maximum interference reduction by canceling most, if not all, of the radiated components from the incoming electromagnetic wave" (Specification -- page 33, lines 19-26).

Lilly discloses a method for manufacturing an artificial magnetic conductor (AMC), which is similar to the presently claimed method. For example, Lilly's method includes extracting a shape of the apparatus from a thin sheet of conductive material and folding the shape into a plurality of resonant circuit elements (Lilly -- Figs. 1-2, 10 and supporting text). However, and as noted in the office action responses filed April 18, 2007 and September 6, 2007, Lilly fails to provide teaching or suggestion for "wherein by the steps of extracting and folding, the apparatus is formed having a length substantially equal to one-half of the transmitted signal wavelength," as recited in present claim 1.

First of all, Lilly fails to mention the length of the subsequently formed AMC. In addition, Lilly fails to provide some implicit or inherent teaching that would enable one skilled in the art to assume that the length must be substantially equal to one-half of the transmitted signal wavelength, as presently claimed. For instance, Lilly fails to mention a desirability, or even a possibility, for maximizing interference reduction between a pair of antennas by providing an apparatus, which is capable of scattering approximately half of the radiated energy in one direction, while the other half is scattered in a substantially opposite direction. As such, Lilly cannot be relied upon to anticipate an apparatus, whose length is uniquely configured for scattering radiated energy in such a manner. Consequently, Lilly fails to anticipate a method for forming an apparatus in which a length of the apparatus is substantially equal to one-half of a signal transmission wavelength, as recited in present claim 1.

Throughout prosecution, the Examiner has relied on the height of the apparatus 100 shown in Figs. 2A-2B of Lilly to calculate an alleged length for the apparatus 1000 shown in Fig. 10 of Lilly. For example, the Examiner insists that Lilly discloses "the height of the apparatus is about 0.005λ to 0.05λ in Col. 4, lines 45-47 and Fig. 10 shows the length (x) of the apparatus is about 14 times the height (y) of the apparatus" (Office Action mailed January 18, 2007, pages 3-4). The Examiner provided an annotated copy of Fig. 10 of Lilly in the Office Action mailed January 18, 2007 to support such allegation (attached hereto as Exhibit A).

The Examiner attempts to support the anticipatory rejection by physically measuring the height and length of the apparatus 1000 shown in Fig. 10 of Lilly. From these measurements, the Examiner speculates that the alleged length of the apparatus is "about 14 times the height" of the apparatus. The Examiner calculates an alleged length of about 0.07λ to about 0.7λ for the apparatus 1000 shown in Fig. 10 of Lilly by multiplying the height (0.005λ to 0.05λ) disclosed for the apparatus 100 shown in Figs. 2A-2B of Lilly by 14. The Examiner concludes that Lilly provides teaching for the claimed apparatus length by disclosing a range (about 0.07λ to 0.7λ) that covers the claimed value (0.05λ). The Appellants disagree and assert that the Examiner has failed to properly support the anticipatory rejection of claim 1.

In his first mistake, the Examiner uses the height (0.005λ to 0.05λ) disclosed for the apparatus 100 shown in Figs. 2A-2B to calculate an alleged length for the apparatus 1000 shown in Fig. 10. However, these apparatuses (100, 1000) represent different embodiments formed in different manners. It is unreasonable to assume that the height of one apparatus could be used to calculate the length of another apparatus, especially since Lilly fails to teach or suggest that the apparatuses may be formed with similar dimensions.

The Examiner's second mistake is to ignore the fact that arguments based on measurement of drawing features are of little value when the reference does not disclose that the drawings are to scale and is silent as to dimensions. *See Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956, 55 USPQ2d 1487, 1491 (Fed. Cir. 2000). The Appellants have repeatedly shown that the dimensions of the elements depicted in Fig. 10 of Lilly cannot be relied upon to show a particular apparatus length when Lilly is completely silent about the length of the AMC (i.e., the alleged "apparatus") and specifically states that the "components in the figures are not necessarily to scale" (Lilly -- col. 2, lines 54-55, emphasis added).

The Examiner apparently disagrees. In the final Office Action, the Examiner maintains his assertion by suggesting that the transmission wavelength demonstrated in the marked-up attachment of Fig. 10 "appears to be reasonable and satisfactory" (final Office Action, page 4). The Appellants disagree.

The issue is not whether the Examiner considers his calculation of a transmission signal wavelength to be "reasonable and satisfactory," but whether the teachings of Lilly support such a wavelength. As noted above, Lilly is completely silent about the length of the AMC (the alleged "apparatus"). In addition, Lilly fails to provide teaching, suggestion or motivation for maximizing interference reduction between a pair of antennas by forming an apparatus, whose length is substantially equal to one-half of a wavelength transmitted by one of the antennas. Furthermore, Lilly specifically states that the "components in the figures are not necessarily to scale" (Lilly -- col. 2, lines 54-55). Even though the Examiner may consider his calculation of transmission wavelength to be "reasonable and satisfactory," the calculation cannot be relied upon to anticipate the limitations of the claim because: (i) the calculation is based on features

which are not drawn to scale and (ii) the calculated length is not disclosed in or supported by the teachings of Lilly.

The Examiner's third mistake is to use imprecise means for calculating the alleged length of the apparatus. As noted above, the Examiner relies on a measured ratio of length/height for the apparatus 1000 shown in Fig. 10 of Lilly to obtain a 14x kicker, which is multiplied with the height of the apparatus 100 shown in Figs. 2A-2B, to calculate an alleged length for the apparatus of Fig. 10. This is a highly imprecise method for obtaining an alleged apparatus length.

Even though Appellants strongly believe that the drawing dimensions shown, e.g., in Figs. 2 and 10 of Lilly cannot be relied upon to anticipate the claims, Appellants will consider the Examiner's logic for the sake of argument. However, instead of relying on a measured ratio of length/height to calculate a length for the apparatus, Appellants will use the period between posts, which provides a more precise calculation of apparatus length by simplifying the calculation.

For instance, Figs. 2A-2B of Lilly illustrate an apparatus 100 in which five posts 106 are periodically spaced along the length of the apparatus. Lilly teaches that the period of the posts should be "less than or equal to about one-half of the height h of the posts" to reduce or eliminate the electrical or conductive contact between the posts 106 and the overlying conductive shapes 110 (Lilly -- col. 5, lines 20-31). In one embodiment, Lilly states that the period of the posts may be as small as about 0.02λ (Lilly -- col. 5, lines 51-53). If the period of the posts are relied upon, instead of the height, a person could calculate an alleged length of about $5*(0.02\lambda) = 0.10\lambda$ to about $5*(0.05\lambda/2) = 0.125\lambda$. This is clearly much less than the claimed apparatus length (0.5λ).

MPEP 2131 clearly states that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art of reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Lilly fails to provide express teaching for any length, much less the claimed apparatus

length. The Examiner relies on an absurd calculation to show inherent or implicit teaching within Lilly for the claimed apparatus length. This is improper for at least the many reasons set forth above.

For at least the reasons set forth above, Appellants contend that the § 102 rejection of claims 1-9, 24 and 26-27 cannot be upheld and request that this rejection be removed.

3. Patentability of claims 1-9 and 24-27 under 35 U.S.C § 103(a)

Claims 1-9 and 24-27 were further rejected under 35 U.S.C. § 103(a) as being unpatentable over Lilly. To establish a case of *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (C.C.P.A 1974), MPEP 2143.03. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed.Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), MPEP 2143.01. Using these standards, Appellants contend that the cited art fails to teach or suggest all features of the currently pending claims, some distinctive features of which are set forth in more detail below.

Lilly fails to provide teaching, suggestion or motivation for a method of forming an apparatus in which a length of the apparatus is substantially equal to one-half of a transmitted signal wavelength. As noted above, Lilly fails to provide teaching or suggestion for the length of the disclosed AMC structure (i.e., the alleged "apparatus"). In addition, Lilly lacks the necessary motivation that would enable one skilled in the art to modify the teachings of Lilly to produce an apparatus, whose length is substantially equal to one-half of a signal transmission wavelength. As such, Lilly cannot be relied upon to provide teaching, suggestion or motivation for all limitations recited in present claim 1.

On page 6 of the Office Action mailed January 18, 2007, the Examiner states "[r]egarding claim 1, if [Appellants] argue that Lilly does not teach the apparatus is formed having a length substantially equal to one-half of the transmitted signal wavelength then it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the apparatus [as claimed] … [since] it has been held that where the general condition of a claim [is] disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233" (Office Action, page 6). In particular, the Examiner argues that Lilly discloses the "general condition of the claim" by disclosing a range of "about 0.07λ to 0.7λ which includes the claimed one-half of the signal transmission wavelength of the present application" (Office Action Mailed January 18, 2007 -- page 7).

The Appellants traversed the Office Action statements noted above in the response filed April 18, 2007. For example, Appellants argued that Lilly fails to disclose the "general condition of the claim," and more specifically, fails to disclose a range of "about 0.07λ to 0.7λ" for the apparatuses shown in Figs. 2 and 10 of Lilly. As noted above, the Examiner's arguments are improperly based on physical measurements of the drawing features shown in the attachment of Fig. 10, which the Examiner provided along with the previous Office Action in support of the alleged teaching. However, arguments based on measurement of drawing features are of little value when the reference does not disclose that the drawings are to scale and is silent as to dimensions. MPEP 2125. Since Lilly is silent about the length of the apparatus and specifically states that the "components in the figures are not necessarily to scale" (Lilly -- col. 2, lines 54-55), the range calculated by the Examiner (about 0.07λ to 0.7λ) for the alleged apparatus length cannot be used to disclose the "general condition of the claim." Since the "general condition of the claim" is NOT disclosed in the cited art, discovering the optimum or workable range would involve more than routine skill in the art. This prevents the claimed apparatus length from being rendered obvious by Lilly.

The Examiner maintains the rejections in the final Office Action because of statements made by the Appellant on page 4 of the response filed April 18, 2007. For example, the Examiner points to a statement made on page 4 of the previous response in which Appellants state, "the claimed apparatus may be optimized by setting the length equal to approximately one-

half of the signal transmission wavelength in a preferred embodiment of the invention" (final Office Action, pages 4-5). The Examiner also notes that the claim language does not recite an exact apparatus length. The Examiner somehow uses these statements to render the limitations of claim 1 obvious. The Appellants disagree.

Although Appellants statement on page 4 of the previous response suggests that the apparatus length may not always be equal to one-half of the signal transmission wavelength (by suggesting that the apparatus may be optimized by setting the length equal to one-half of the signal transmission wavelength in a preferred embodiment of the invention), the Appellants statement does not override the fact that the preferred embodiment of the invention is recited in the claims. In order to render claim 1 obvious, Lilly must provide some teaching, suggestion or motivation for an apparatus, whose length is substantially equal to one-half of the signal transmission wavelength. Lilly fails to do so. Therefore, Lilly cannot be relied upon to render the limitations actually recited in claim 1 obvious.

The Examiner maintains the rejections in the Advisory Action because of statements made by the Appellant on page 2 of the office action response filed April 18, 2007. For example, the Examiner suggests that since the Appellants admit that "the exact wavelength and the exact apparatus length … are not critical or essential to the practice of the invention (see "Remarks" filed on 4/18/07, page 2, last three lines), and since Lily [sic] discloses [a] method of … forming an apparatus by extracting a shape and folding the shape into a plurality of resonant circuit elements, the apparatus of Lily [sic] has a length that is substantially equal to one-half of a particular transmission wavelength" (Advisory Action, page 2). The Appellants disagree.

Appellants stand by the argument that an exact wavelength or an exact apparatus length do not need to be recited in the claims because the exact values are not critical or essential to the practice of the invention. For example, it is not critical or essential to specifically state that an apparatus length of about 62mm may be sufficient for redirecting electromagnetic interference from a radio transmitting at 2.4Ghz. However, for maximum interference reduction, it is critical that the apparatus length be "substantially equal to one-half of the transmitted signal wavelength." This is clearly spelled out in the present claims.

However, Appellants do not believe that the previous arguments set forth on page 2 of the response filed April 18, 2007 can be used to support an obvious-type rejection. As noted above, Lilly clearly fails to provide teaching or suggestion for an apparatus formed having a length "substantially equal to one-half of the transmitted signal wavelength." In addition, Lilly fails to provide the motivation necessary for one skilled in the art to modify the teachings of Lilly to provide such a length. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed.Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), MPEP 2143.01. Since neither teaching, suggestion or motivation exists, Lilly cannot be relied upon to render all limitations of claim 1 obvious.

For at least the reasons set forth above, Appellant asserts that independent claim 1, as well as claims dependent therefrom, are patentably distinct over Lilly. Contrary to the characterizations made in the various Office Actions, the cited reference fails to provide explicit or implicit teaching for all limitations recited in claim 1. Further, Lilly lacks the necessary motivation that would enable one skilled in the art to modify the teachings of Lilly to do so. Accordingly, Appellants assert that a *prima facie* case of obviousness has not been duly set out and cannot be sustained.

* * *

For the foregoing reasons, it is submitted that the Examiner's rejection of claims 1-9 and 24-27 was erroneous, and reversal of the decision is respectfully requested.

The Commissioner is authorized to charge the required fees to Daffer McDaniel LLP deposit account number 50-3268.

Respectfully submitted,

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JMF

VIII. CLAIMS APPENDIX

The present claims on appeal are as follows.

1. A method for forming an apparatus configured to reduce electromagnetic interference between a pair of antennas coupled to a wireless communication device, wherein the method comprises:

extracting a shape of the apparatus from a thin sheet of conductive material;

folding the shape into a plurality of resonant circuit elements, each configured to resonate at or near a carrier frequency of a signal transmitted by one of the pair of antennas; and

wherein by the steps of extracting and folding, the apparatus is formed having a length substantially equal to one-half of the transmitted signal wavelength.

2. The method of claim 1, wherein a process of extracting the shape from the thin sheet of conductive material is selected from a group comprising stamping, laser etching, and chemical etching.

3. The method of claim 2, wherein the conductive material comprises a relative permittivity value of about 0.0 F/m to about 1.0 F/m and a relative permeability value of about 10 H/m to about 100,000 H/m.

4. The method of claim 2, wherein the conductive material comprises a metal selected from a group comprising iron (Fe), copper (Cu), gold (Au), silver (Ag), tin (Sn), and nickel (Ni), or a metal alloy selected from a group comprising beryllium copper (BeCu), phosphor bronze (Ph+Cu/Zn/Sn), magnesium alloys (Mg/Al/O) and steel (Fe/C).

5. The method of claim 2, wherein the conductive material comprises a primarily ferrous-based material.

6. The method of claim 1, wherein the plurality of resonant circuit elements comprise a plurality of rectangular elements connected to and arranged above a common reference plane by a plurality of vertical segments, wherein the plurality of rectangular elements and the common reference plane comprise capacitive portions, and the plurality of vertical segments comprise inductive portions, of the plurality of resonant circuit elements.

7. The method of claim 6, wherein the method further comprises arranging a dielectric material between the plurality of rectangular elements and the common reference plane.

8. The method of claim 1, wherein the plurality of resonant circuit elements comprise a plurality of A-shaped elements separated by a plurality of horizontal segments, wherein flat surfaces of the A-shaped elements comprise capacitive portions, and bent portions of the A-shaped elements comprise inductive portions, of the plurality of resonant circuit elements.

9. The method of claim 1, wherein the plurality of resonant circuit elements comprise a plurality of relatively long domed elements spaced apart by a plurality of relatively thin slots, and wherein the slots comprise capacitive portions, and the domed elements comprise inductive portions, of the plurality of resonant circuit elements.

24. The method of claim 9, wherein the method further comprises arranging a dielectric material within the relatively thin slots between the plurality of relatively long domed elements.

25. The method of claim 1, wherein a thickness of the thin sheet of conductive material is selected from a range of thicknesses comprising about 0.1 mm to about 0.2 mm.

26. The method of claim 1, wherein by the steps of extracting and folding, the plurality of resonant circuit elements are formed having a periodic surface that is less than or equal to one-tenth of the transmitted signal wavelength.

27. The method of claim 1, wherein by the steps of extracting and folding, the apparatus is formed without a dielectric substrate.

IX. EVIDENCE APPENDIX

No evidence has been entered during the prosecution of the captioned case.

X. RELATED PROCEEDINGS APPENDIX

No appeals or interferences are known which would directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.